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10/535,234

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Takeshi Chonan

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EXAMINER

JACKSON, MONIQUE R

ART UNIT

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1794

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                       |                                      |  |
|------------------------------|---------------------------------------|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/535,234  | <b>Applicant(s)</b><br>CHONAN ET AL. |  |
|                              | <b>Examiner</b><br>Monique R. Jackson | <b>Art Unit</b><br>1794              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/14/05, 7/19/07, 7/27/07</u> .                               | 6) <input type="checkbox"/> Other: ____.                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites the limitation "A laminated structure...**sandwiching an intermediate layer** containing fine particles function to block solar radiation **between two pieces of sheets for laminating** selected from...plastic containing fine particles functioning to block solar radiation, wherein *said fine particles having the function to block solar radiation* comprise" (emphasis added) in lines 1-6. First, it is noted that the "sandwiching" limitation in bold above is somewhat confusing given that it appears to be a process step though the claim is directed to a product. The second section in bold above is also unclear - is the intermediate layer between two pieces or two sheets? Next, it is unclear whether the "said fine particles" limitation in italics above refers to the fine particles in the intermediate layer, in the plastic sheet, or both. Claim 1 also includes a list of elements that can be part of the composite tungsten oxide fine particles, however, the list is not provided in proper alternative or Markush claim format. Claim 2 recites similar limitations to the above and is unclear for the same reasons.

3. Claims 3-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 3 recites that the limitation "wherein the diameter of fine particles...is not less than 1 nm and not more than 800". First, it is unclear to what fine particles this limitation

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refers; fine particles in general, since the limitation does not recite "said" or "the", the fine particles of the intermediate layer, or of the optional plastic sheet? Claims 4-7 are indefinite for similar reasons. As for the diameter range in Claim 3, the limitation fails to provide the units for the "800" value, is this 800nm, 800 $\mu$ m, etc.?

4. Claims 6-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 6, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Additionally, the limitation "fine particles of oxides, fine particles of composite oxides, and fine particles of borides" in Claims 6 and 7 is not in proper alternative format. Lastly, it is noted that a claim in which one ingredient is defined so broadly that it reads upon a second does not meet the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Ferm and Boynton*, 162 USPQ (BdPatApp & Int 1969.) In the instant claims, the tungsten oxide particles can read upon the "fine particles of oxides, fine particles of composite oxides, and fine particles of borides" as claimed and hence the mixing ratio is irrelevant.

5. Claims 10-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The wording used to describe the intermediate layer structure in Claims 10-13 is unclear. For example, Claim 10 recites the limitation "the intermediate layer has an intermediate film stacked by two or more layers". Does this mean the intermediate layer comprises two or more layers or does this mean the intermediate layer is adjacent two or more layer, which could

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read upon the two sheets of the laminate, wherein at least one of the layers or sheets comprises said fine particles?

6. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In the limitation “vinyl base resin”, it is not clear what is meant to be encompassed by the term “base”.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Kodha (US 20020037071 A1.) Kohda teaches a scatter ray absorption grid wherein the grid is formed from laminated plate members comprising at least one layer having a tungsten powder dispersed in a binder, wherein the tungsten powder contains 50% by weight or more of tungsten with example tungsten compounds including  $W_2O_5$  as well as composite tungsten oxides or alloys (Abstract; Figures, particularly 2, 5, 6, 8, 10-13, 16-18; Paragraph 0011-0012; *wherein  $W_2O_5$  would inherently read upon the claimed fine particles including color and structure.*) Kohda specifically teach layered structures that include the tungsten powder having a particle size of 7  $\mu$  dispersed in a polyester or polyurethane binder, laminated with and between polyester films including PET films (Page 3-5.) With respect to Claim 7, the Examiner notes that the mixture of

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tungsten oxides with mixing ratio is optional a mixture tungsten oxides and comprising the claimed ratio is optional given that the actual mixture has not been positively recited in Claim 6.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo (USPN 5,830,568.) Kondo teaches a laminated glass and a method of producing the same, wherein the laminated glass comprises first and second transparent glass plates and interposed therebetween an interlayer film comprising functional ultra-fine particles dispersed therein (Abstract.) Kondo teaches that the functional ultra-fine particles have a particle diameter of up to 0.2  $\mu\text{m}$  and due to their incorporation in the interlayer, the interlayer film is provided with various additional functions such as heat insulation, ultraviolet ray absorption and the maintenance of a sufficient radio transmittance (Abstract.) Kondo teaches that the functional ultra-fine particles comprise at least one member selected from the group consisting of: metals selected-from the group consisting of Sn, Ti, Si, Zn, Zr, Fe, Al, Cr, Co, Ce, In, Ni, Ag, Cu, Pt, Mn, Ta, W, V and Mo, and compounds containing said metals such as oxides thereof as well as doped compounds thereof; and are dispersed in the interlayer film preferably formed from polyvinyl butryal or ethylene-vinyl acetate (Col. 3-4.) Kondo also teach that the particles may be a mixture of the disclosed particle materials and that the interlayer film may be laminate of multiple layers such as a layer of the above film laminated a conventional interlayer film or

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sandwiched between two conventional interlayer films (*hence reads upon the layered structures of Claims 2, 10-14; Col. 4, lines 4-30.*) Though Kondo does not specifically teach the claimed tungsten oxide or composite tungsten oxide, Kondo clearly discloses tungsten oxides and as well as composite tungsten oxides, and given the reasonable expectation of success, one having ordinary skill in the art at the time of the invention would have been motivated to utilize any tungsten oxide compound or composite tungsten oxide doped with the metals disclosed by Kondo, based upon the desired functional properties for a particular end use, wherein the claimed tungsten oxides are an obvious species of tungsten oxide utilized in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 10:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Monique R Jackson/  
Primary Examiner, Art Unit 1794  
June 20, 2008